

CLAIMS:

What is claimed is:

1. A method for determining data relationships of data associated with product placement in a retail space, the method comprising the computer-implemented steps of:

determining locations of products within the retail space using a position identifying system;

identifying customers within the retail space;

recording paths of customers through the retail space using the position identifying system;

identifying products chosen for purchase by the customers during the paths of the customers through the retail space; and

associating the locations of products within the retail space with the paths of the customers through the retail space to form a set of spatial relationships.

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2. The method of claim 1 further comprising:
employing data mining algorithms to generate input
data for forming the set of spatial relationships.

3. The method of claim 1 further comprising:
employing spatial analysis algorithms to form the
set of spatial relationships.

4. The method of claim 1 wherein the position
identifying system comprises a global positioning system or
other remote sensing device.

5. The method of claim 1 wherein the position
identifying system comprises a local positioning system that
may or may not be associated with a global positioning
system.

6. A method for determining data relationships of data
associated with product placement in a retail space, the
method comprising the computer-implemented steps of:

identifying patterns of customers in the retail
space.

6 identifying locations of products within the retail
7 space; and

8 associating the patterns of customers with the
9 locations of products to form a set of spatial
10 relationships.

1 7. The method of claim 6 further comprising:

2 selecting locations for products in the retail space
based on the set of spatial relationships.

3 8. The method of claim 7 further comprising:

4 identifying locations of products relocated within
the retail space based on the selected locations; and

5 associating the patterns of customers with the
6 locations of relocated products to form a second set of
spatial relationships.

1 9. The method of claim 6 further comprising:

2 employing data mining algorithms to generate input
3 data for forming the set of spatial relationships.

1 10. The method of claim 6 further comprising:

2 employing spatial analysis algorithms to form the
3 set of spatial relationships.

1 11. The method of claim 6 further comprising:

2 identifying patterns of customers and locations of
3 products within the retail space comprises using a position
4 identifying system.

5 12. The method of claim 11 wherein the position
6 identifying system comprises a local positioning system that
7 may or may not be associated with a global positioning
8 system.

9 13. The method of claim 11 wherein the position
10 identifying system comprises a global positioning system or
11 some other means of sensing position of objects of interest.

1 14. A method for determining data relationships of data
2 associated with product placement, the method comprising the
3 computer-implemented steps of:

4 identifying patterns of persons within a physical
5 space;

6 identifying locations of products within a physical
7 space; and

8 associating the patterns of persons with the
9 locations of products to form a set of spatial
10 relationships.

15. The method of claim 14 wherein the physical space is
a warehouse of products.

16. A data processing system for determining data
relationships of data associated with product placement in a
retail space, the data processing system comprising:

determining means for determining locations of
5 products within the retail space using a position
6 identifying system;

7 first identifying means for identifying customers
8 within the retail space;

9 recording means for recording paths of customers
10 through the retail space using the position identifying
11 system;

12 second identifying means for identifying products
13 chosen for purchase by the customers during the paths of the
14 customers through the retail space; and

15 associating means for associating the locations of
16 products within the retail space with the paths of the
17 customers through the retail space to form a set of spatial
18 relationships.

19 17. The data processing system of claim 16 further
20 comprising:

21 first employing means for employing data mining
22 algorithms to generate input data for forming the set of
23 spatial relationships.
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25 18. The data processing system of claim 16 further
26 comprising:

3 second employing means for employing spatial
4 analysis algorithms to form the set of spatial
5 relationships.

1 19. The data processing system of claim 16 wherein the
2 position identifying system comprises a global positioning
3 system.

1 20. The data processing system of claim 16 wherein the
2 position identifying system comprises a local positioning
3 system.

1 21. A data processing system for determining data
2 relationships of data associated with product placement in a
3 retail space, the data processing system comprising:

4 first identifying means for identifying patterns of
5 customers in the retail space;

6 second identifying means for identifying locations
7 of products within the retail space; and

8 first associating means for associating the patterns
9 of customers with the locations of products to form a set of
10 spatial relationships.

1 22. The data processing system of claim 21 further
2 comprising:

3 selecting means for selecting locations for products
4 in the retail space based on the set of spatial
5 relationships.

1 23. The data processing system of claim 22 further
2 comprising:

3 third identifying means for identifying locations of
4 products relocated within the retail space based on the
5 selected locations; and

6 second associating means for associating the
7 patterns of customers with the locations of relocated
8 products to form a second set of spatial relationships.

1 24. The data processing system of claim 21 further
2 comprising:

3 first employing means for employing data mining
4 algorithms to generate input data for forming the set of
5 spatial relationships.

1 25. The data processing system of claim 21 further
2 comprising:

3 second employing means for employing spatial
4 analysis algorithms to form the set of spatial
5 relationships.

1 26. The data processing system of claim 21 further
2 comprising:

3 fourth identifying means for identifying patterns of
4 customers and locations of products within the retail space
5 comprises using a position identifying system.

6 27. The data processing system of claim 26 wherein the
7 position identifying system comprises a local positioning
8 system.

1 28. The data processing system of claim 26 wherein the
2 position identifying system comprises a global positioning
3 system.

1 29. A data processing system for determining data
2 relationships of data associated with product placement, the
3 data processing system comprising:

4 first identifying means for identifying patterns of
5 persons within a physical space;

6 second identifying means for identifying locations
7 of products within a physical space; and

8 associating means for associating the patterns of
9 persons with the locations of products to form a set of
10 spatial relationships.

30. The data processing system of claim 29 wherein the
physical space is a warehouse of products.